

VI. MANAGEMENT CONCERNS

Increasing Catch Trends in the Strait of Juan de Fuca Fisheries

Chinook and coho catches by hook-and-line fisheries in the Strait of Juan de Fuca immediately to the east of Area 4B have increased substantially in recent years (Table VI-1). For chinook, the treaty Indian troll fishery in Areas 5 and 6C harvested approximately 35,100 chinook in 1987, compared to 25,300 chinook in 1986 and a 1981-1985 average of 2,000. The 1987 catch of chinook by this fishery was 50 percent above the 1986 level and more than twice the size of the quota established for the entire treaty troll fishery in ocean management areas. The sport fishery in Areas 5 and 6C harvested 68,600 chinook in 1986 (1987 statistics are not yet available), compared to 44,300 chinook in 1985 and a 1981-1985 average of 46,300. The 1987 gillnet catch in Areas 5 and 6C was 7,000 chinook, compared to 10,600 in 1986 and a 1981-1985 average of 11,500. Available genetic stock identification data suggests that the contribution of Columbia River fall stocks in Areas 5 and 6C is approximately one-half that in Area 4 and 4B.

The treaty Indian troll fishery harvested 3,600 coho in Areas 5 and 6C in 1987, compared to 4,600 coho in 1986 and a 1981-1985 average of 300. The sport fishery in these areas harvested 141,800 coho in 1986 (statistics for 1987 are not available), compared to 88,900 coho in 1985 and a 1981-1985 average of 68,600. The gillnet coho catch in these areas has remained relatively stable. The 1987 catch of 59,500 coho compares to a harvest of 59,800 in 1986 and a 1981-1985 average of 54,300. The 1987 catch level for this fishery was constrained by management agreements to protect Skagit coho. CWT data indicate that there is no significant difference in coho stock composition between Area 4B and Area 5.

The SPDT continues to be concerned that the growth and lack of direct controls in fisheries in these areas increases the chance that the Council's management objectives will not be achieved and the difficulty of assessing impacts of ocean regulations upon stocks that are critical to the deliberations and objectives of the Council.

Complexity of the 1987 Regulations

The Council has adopted increasingly complex regulations as managers and users have sought to maximize harvest opportunity for stocks with harvestable surpluses while providing some level of protection for depressed stocks. Examples include: smaller subarea management, initiation of near-terminal ocean fisheries, ratio fisheries, and small quota levels. While the pursuit of these types of regulations may enhance economic and social benefits, available data often do not support the level of detail that is necessary to realistically evaluate some of these management measures, given the uncertainty inherent in stock behavior and fishing patterns. The SPDT is concerned that management measures are becoming so complex that assessment will become more subjective and lack sound scientific foundation. As the complexity of regulations increases, the SPDT's ability to accurately project the impacts of these regulations diminishes.

Table VI-1. Salmon catches in numbers of fish from the Cape Flattery and Strait of Juan de Fuca areas, by gear and species, 1979-1987.

Year	Treaty Indian			Nontreaty				Grand Total
	Troll	Gillnet	Total	Troll	Gillnet	Sport ^{a/}	Total	
<u>CHINOOK LANDINGS</u>								
<u>Area 4 and 4A</u>								
1979	408	0	408	26,549	0	3,886	30,435	30,843
1980	2,388	1,197	3,585	22,252	0	2,751	25,003	28,588
1981	3,666	181	3,847	17,267	0	3,207	20,474	24,321
1982	12,714	267	12,981	16,505	0	3,180	19,685	32,666
1983	2,899	62	2,961	9,547	0	2,452	11,999	14,960
1984	2,086	0	2,086	2,326	0	229	2,555	4,641
1985	6,765	493	7,258	4,414	0	2,052	6,466	13,724
1986	5,208	91	5,299	4,646	0	3,250	7,896	13,195
1987	10,095	3,126	13,221	4,843	0	2,528	7,371	20,592
<u>Area 4B</u>								
1979	8,436	2,393	10,829	214	1,401	-	1,615	12,444
1980	10,712	4,561	15,273	0	368	-	368	15,641
1981	15,950	4,899	20,849	2	542	-	544	21,393
1982	19,605	4,712	24,317	297	1,699	-	1,996	26,313
1983	20,102	7,009	27,111	8	264	-	272	27,383
1984	14,627	1,460	16,087	3	18	-	21	16,108
1985	7,524	3,394	10,918	2	279	-	281	11,199
1986	5,857	6,325	12,182	0	39	-	39	12,221
1987	11,281	3,950	15,231	0	5	-	5	15,236
<u>Area 5</u>								
1979	97	3,571	3,668	43	3,399	30,914	34,313	37,981
1980	64	5,568	5,632	0	737	20,591	21,328	26,960
1981	80	10,068	10,148	1	2,774	17,145	19,919	30,067
1982	67	13,214	13,281	9	2,566	12,538	15,104	28,385
1983	169	7,712	7,881	7	551	16,839	17,390	25,271
1984	1,404	8,480	9,884	9	399	11,993	12,392	22,276
1985	4,047	7,280	11,327	18	612	18,382	18,994	30,321
1986	15,005	9,387	24,392	0	85	36,146	36,231	60,623
1987	17,553	4,777	22,330	0	45	NA	NA	NA
<u>Area 6C</u>								
1979	3	63	66	0	107	49,688	49,795	49,861
1980	22	34	56	0	46	47,187	46,233	46,289
1981	1,235	171	1,406	8	74	34,207	34,281	35,687
1982	182	242	424	29	72	17,304	17,376	17,800
1983	612	507	1,119	2	13	41,221	41,234	42,353
1984	512	1,696	2,208	15	43	36,010	36,053	38,261
1985	1,557	944	2,501	11	142	25,885	26,027	28,528
1986	10,327	1,130	11,457	0	0	32,452	32,452	43,909
1987	17,587	2,207	19,794	0	6	NA	NA	NA

Table VI-1. Salmon catches in numbers of fish from the Cape Flattery and Strait of Juan de Fuca areas . . . (continued).

Year	Treaty Indian			Nontreaty				Grand Total
	Troll	Gillnet	Total	Troll	Gillnet	Sport ^{a/}	Total	
<u>COHO LANDINGS</u>								
<u>Area 4 and 4a</u>								
1979	1,518	0	1,518	143,469	0	33,387	176,856	178,374
1980	19,488	43	19,531	69,133	0	26,716	95,849	115,380
1981	15,578	5	15,583	94,514	0	25,868	120,382	135,965
1982	92,171	78	92,249	84,101	0	39,521	123,622	215,871
1983	28,196	18	28,214	2,353	0	51,826	54,179	82,393
1984	30,534	0	30,534	16,441	0	6,371	22,812	53,346
1985	51,564	18	51,582	44	0	23,594	23,638	75,220
1986	33,631	158	33,789	18,242	0	21,759	40,001	73,790
1987	52,453	19	52,472	1,171	0	24,953	26,124	78,596
<u>Area 4B</u>								
1979	3,062	12,507	15,569	2,003	10,335	-	12,338	27,907
1980	251	1,843	2,094	1	1,810	-	1,811	3,905
1981	2,976	2,802	5,778	3	810	-	813	6,591
1982	4,179	16,768	20,947	13,784	12,257	-	26,041	46,988
1983	3,621	6,449	10,070	8	1,131	-	1,139	11,209
1984	1,454	12,775	14,229	0	25	-	25	14,254
1985	573	15,665	16,238	50	1,359	-	1,409	17,647
1986	6,987	9,887	16,874	14	721	-	735	17,609
1987	4,646	3,234	7,880	0	14	-	14	7,894
<u>Area 5</u>								
1979	29	26,881	26,910	193	25,579	76,876	102,618	129,528
1980	6	36,798	36,804	0	4,190	18,746	22,936	59,740
1981	21	46,092	46,113	54	5,205	33,045	38,304	84,417
1982	1	72,400	72,401	109	9,509	54,728	64,346	136,747
1983	56	31,070	31,126	161	1,655	40,598	42,414	73,540
1984	520	32,444	32,964	36	1,251	27,270	28,557	61,521
1985	763	64,482	65,245	541	3,328	72,065	75,934	141,179
1986	4,416	58,993	63,409	18	332	102,727	103,077	166,486
1987	2,928	57,936	60,864	0	325	NA	NA	NA
<u>Area 6C</u>								
1979	0	379	379	0	521	13,730	14,251	14,630
1980	0	125	125	0	308	5,405	5,712	5,837
1981	49	688	737	27	197	19,412	19,636	20,373
1982	5	1,287	1,292	674	269	16,467	17,410	18,702
1983	112	200	312	17	69	31,167	31,253	31,565
1984	37	364	401	30	36	31,213	31,279	31,680
1985	4	585	589	82	543	16,861	17,486	18,075
1986	214	475	689	0	0	39,024	39,024	39,713
1987	677	1,230	1,907	0	19	NA	NA	NA

a/ Sport catches for Area 4B are included in Area 4 and 4A catches and represent total catches from the port of Neah Bay. Sport catches for Areas 5 and 6C represent catches for the Sekiu and eastern Strait areas respectively.

Ratio Fisheries

The use of landing restrictions in ocean fisheries remains a serious concern to the SPDT.

The intent of ratio fisheries is to increase chances of harvesting the complete quotas, to lengthen the period of harvest, or to limit catches and stock impacts.

Species selectivity by ocean troll or recreational fisheries has been demonstrated in only a few cases. The use of gear restrictions (e.g., bare-blued hooks for pink salmon) has had very limited success in reducing catches of chinook and coho. Very broad time period restrictions (e.g., May versus late season) have been effective in separating coho and chinook impacts. Regulation of possession or landings has an unknown effect on fishery selectivity.

The only quantifiable selectivity effect of ratio fisheries is survival of fish released, but data for accurately estimating the incidence of fish released are very limited. Relative species incidence is highly variable between years, areas, time periods, and even between fishermen. The factors affecting incidence are not clear and cannot be anticipated. Actual on-the-water sampling of incidence is extremely expensive, but provides the only means of accurately estimating incidence and assessing the true selectivity. Ratio fisheries may increase the rate of mortality associated with the process of hook-and-release since possession and landing limits may promote on-board sorting of the catch. Accurate estimates of incidence will result in improved accountability which will enhance stock abundance estimation and forecasting.

The SPDT intends to prepare a more detailed discussion of the ratio fishery implications and suggests that the Council arrange an appropriate forum for discussion among Council entities at a convenient time during the 1988 preseason planning process.

Late Reporting of Landings for Treaty Indian Troll Fisheries

Several problems were experienced with catch reporting for the treaty Indian troll fishery in 1987. Misreporting of gear types and late entry of significant harvest amounts on to the catch reporting system increased the difficulty of managing these fisheries within established quotas and providing an accurate postseason assessment.